NWS FORM E-5 U.S. DEPARTMENT OF COMMERCE HYDROLOGIC SERVICE AREA:

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL WEATHER SERVICE SAN JOAQUIN VALLEY - HANFORD , CA

REPORT FOR:

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

CONDITIONS MONTH: FEBRUARY YEAR: 2015

TO: Hydrometeorological Information Center, W/OH12x1 SIGNATURE:
National Weather Service/Office of Hydrology
1325 East-West Highway #7116 Kevin Durfee

Silver Spring, MD 20910 (In Charge of Hydrologic Service Area)

DATE: March 5, 2015

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts and hydrologic products issued (WSOM E-41).

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 \mid **X** \mid An **X** inside this box indicates that no flooding occurred for the month +---+ within this hydrologic service area.

February, 2015 was not at all kind to the drought-stricken central California interior. Although a few water enriched storm systems tracked through the HSA, precipitation for the month ended up well below normal. The maps on the following page of this summary put things in perspective as to where California stands with regard to the short and long term precipitation deficit. Temperature-wise, February, 2015 was much warmer than normal. At least 23 days in the month averaged warmer than normal at most climate stations. In the San Joaquin Valley and lower foothills, 9 to as many as 16 days saw maximum temperatures of 70 degrees or higher. In the south valley, thermometer readings even soared into the 80s on the 5th and 6th and again on the 8th.

The primary cause of exceptionally warm weather and below normal precipitation throughout the central California interior was due to a rather persistent upper level ridge of high pressure along the West coast. Although this ridge was displaced from time to time, it had difficulty moving eastward because of a blocking and rather deep upper level low pressure system anchored over Hudson Bay in eastern Canada. It wasn't until the last week of February that the Hudson Bay Low was finally dislodged and allowed colder, wet storm systems to track into California. During this period, higher elevations of the Sierra and the Kern county mountains finally received significant snow, but it was hardly enough to produce a respectable snowpack, which, unfortunately, averaged a measly 16 percent of normal by month's end. Storms that brought water into the HSA earlier in the month were warm storms equipped with tropical moisture. In particular, two back to back storm systems impacted the central California interior from February 6th through February 8th. Snow levels were generally above 9,000 feet during this time, so precipitation fell mainly as rain, and lots of it, as the first of these storms tracked across the northern portion of the HSA during the 6th and 7th. As you might expect, the bulk of precipitation with this storm fell north of Kern County. Rainfall in the San Joaquin Valley ranged from several hundredths of an inch in Kern County to a little more than one inch in Merced County. A strong, moisture laden southwesterly flow aloft was responsible for producing copious rainfall over the orographically enhanced west slopes of the southern Sierra from February 6th through the 7th. Although much of this rain easily percolated into the soil, minor road flooding occurred along Highway 41 in the vicinity of Coarsegold on the evening of the 6th. The second storm brought scattered showers to the HSA on the 8th, and the atmosphere was unstable enough to produce isolated thunderstorms in the San Joaquin Valley that afternoon.

Once the upper level ridge of high pressure re-established itself over the central California interior during the second week of February, nightly fog formation occurred in the San Joaquin Valley. Patchy dense fog became a travel woe in the San Joaquin Valley each and every morning through the 18th. Low stratus lingered in the San Joaquin Valley well into the afternoon hours of the 18th thanks to a deep inland intrusion of marine air. The next storm system that brought precipitation into the HSA was a backward mover and was much colder than its predecessors. With its origins in the northern Rockies, the storm retrograded into central California on the 21st and 22nd and brought 5 to as much as 20 inches of snow to elevations above 5,000 feet from the Tehachapi mountains northward to Yosemite National Park. The cold and unstable

atmospheric environment associated with this storm produced isolated afternoon thunderstorms in the San Joaquin Valley and adjacent foothills on the 22^{nd} and 23^{rd} . A funnel cloud briefly touched down as a very weak tornado in a rural location of southwestern Kern County shortly before noon on the 23^{rd} . Otherwise, rainfall of three-tenths to an inch occurred in the lowest elevations which included the San Joaquin Valley and the Kern County desert. The foothills and higher elevations fared a little better where heavier showers produced up to 1.5 inches in some locations.

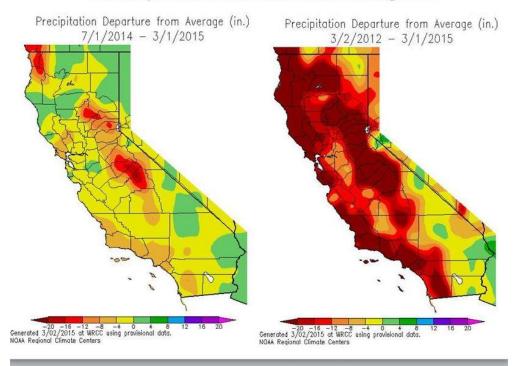
Retrogression of the upper air pattern continued during the remaining days of February. The westward shift of the upper level ridge of high pressure into the eastern Pacific allowed room for cold storm systems to track southward out of western Canada and into central California on the 27th and 28th. The convective nature of showers associated with this end of the month storm produced highly varied precipitation amounts over the HSA. Rain amounts ranged from as little as one hundredth of an inch to as much as a half inch in heavier showers, including the Kern County desert. Snow levels were generally around 5,000 feet where local accumulations of 2 to 5 inches occurred.

Although a small recharge of water occurred in a few of the major reservoirs of the HSA this month, water levels remained well below normal. As of March 1st, the percentage of normal water capacity ranged from just 7 percent at Hidden Dam to 65 percent at San Luis Reservoir. This averaged out to a water capacity that was about 20 percent of normal.

HYDROLOGIC PRODUCTS ISSUED THIS MONTH

Flash Flood WatchSierra Nevada from Yosemite to Kings Canyon	0219Z	07-Feb
Small Stream Flood AdvisorySierra foothills	0230Z	07-Feb
Urban/Small Stream Flood AdvisoryKern County Desert	0126Z	22-Feb
Urban/Small Stream Flood Advisoryexpanded to include the San Joaquin		
Valley portion of Kern County and the		
Kern County mountains	0259Z	22-Feb

CA Precipitation deficit-short term and long term



The map on the left is the departure from normal (in inches) for the current rain season which began July 1st. The map on the right shows the precipitation deficit for much of California during the past 3 years.

cc:

W/OH12x1 W/WR2 CNRFC WFO HNX WFO STO